CLAIMS

1. A solenoid valve comprising a valve section having a valve member which comes into contact and separates from a valve seat to switch passage, and a solenoid portion for driving the valve member, wherein

the solenoid portion comprises a fixed magnetic member, a bobbin around which a coil is wound, a cylindrical magnetic cover surrounding the coil and constituting an outer profile of the solenoid portion, a magnetic plate provided in the magnetic cover adjacent to the bobbin, and a moving core which is slidably fitted into center holes formed such as to pass through the magnetic plate and the bobbin and which is adsorbed by the fixed magnetic member,

an electrical insulation film is formed on at least an inner surface among inner and outer surfaces of the magnetic cover.

2. The solenoid valve according to claim 1, wherein the electrical insulation film is formed by one of the following methods: a method for painting epoxy resin on the magnetic cover, a method for spraying fluorocarbon resin, a method for coating ceramic, and a method for vacuum depositing electrical insulation material.

3. The solenoid valve according to claim 1, wherein the fixed magnetic member is a fixed core which is fitted and fixed to one end of the bobbin, the magnetic cover is cylindrical in shape, the magnetic cover is integrally provided at its axial one end with an occluded section which comes into contact with the fixed core, and is provided at its other end with an opening section.

4. The solenoid valve according to claim 3, wherein the magnetic cover has a contact surface or joint surface with respect to a member constituting a magnetic circuit, and a film non-formed portion having no insulation film is formed on the

contact surface or joint surface.

5. The solenoid valve according to claim 1, wherein the magnetic cover comprises a cylindrical cover provided at its axial opposite ends with opening sections, and a magnetic cap for closing one of the opening sections, the fixed magnetic member is a fixed core fixed to the magnetic cap, and the fixed core is inserted into the center hole of the bobbin.

6. The solenoid valve according to claim 5, wherein the magnetic cover has a contact surface or joint surface with respect to a member constituting a magnetic circuit, and a film non-formed portion having no insulation film is formed on the contact surface or joint surface.

7. The solenoid valve according to claim 1, wherein the magnetic cover comprises a cylindrical cover provided at its axial opposite ends with opening sections, and a magnetic cap for closing one of the opening sections, the magnetic cap is thicker than the cylindrical cover and also functions as the fixed magnetic member.

8. The solenoid valve according to claim 7, wherein the magnetic cover has a contact surface or joint surface with respect to a member constituting a magnetic circuit, and a film non-formed portion having no insulation film is formed on the contact surface or joint surface.

9. The solenoid valve according to claim 1, wherein a shape of a cross section of each of the bobbin, the center holes of the magnetic plate and the moving core is long ellipse or oval shape.